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Service

**National Wildlife
Research Center**

Wildlife Services Seeking Solutions Through Research

Managing Depredation and Nuisance Problems Caused by Vultures

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National Wildlife Research Center Scientists Address Vulture Problems

Wildlife Services' (WS) National Wildlife Research Center (NWRC) is the only Federal research organization devoted exclusively to resolving conflicts between people and wildlife through the development of effective, selective, and acceptable methods, tools, and techniques.

Researchers at NWRC's Gainesville, FL, field station conduct research to resolve problems caused by vultures. This research facility is a uniquely designed 26-acre site with outdoor aviaries, which allow bird research to be conducted throughout the year under natural environmental conditions.

As land-use patterns change and urban populations surge into previously uninhabited areas, wildlife conflicts inevitably increase. Of growing concern are problems associated with black vultures and turkey vultures, two species that have shown the capacity to readily adapt to residential settings.

Major Research Accomplishments:

- WS evaluated satellite telemetry for use in relocating vultures from problem areas.
- WS identified novel repellant strategies (effigies and lasers) to disperse vulture roosts from structures and wooded roosts in residential and agricultural sites.

Black vultures prey on newly born livestock and, along with turkey vultures, form roosts that create nuisance, health, and safety problems. In recent years, livestock depredation and property damage caused by vultures have increased steadily. Residents and livestock producers in at least 15 States have reported conflicts with black vultures and turkey vultures to Wildlife Services personnel. Nuisance problems and electrical power outages due to roosting vultures are even more widespread.

In addition, vultures forage at landfills, often located near airports. In their daily flights to and from these landfills, vultures pose a major hazard to aircraft. According to the Federal Aviation Administration's Wildlife Strike Database, more than 150 vultures have collided with civil aircraft since 1991.

The goal of NWRC's research is to understand the relationship between various habitats and problems caused by vultures. This knowledge will help to develop effective management techniques for reducing predation losses and property damage.

Applying Science & Expertise to Wildlife Challenges

Management Methods at Vulture Roosts—NWRC scientists are performing evaluations to obtain a better understanding of various techniques for dispersing problem vulture roosts and reducing losses due to vulture depredation. The methods being evaluated include, vulture effigies, artificial decoys, and hand-held lasers.

Communication towers, which are attractive roost sites for black and turkey vultures, provide an opportunity for NWRC to test its various management methods. When vultures roost on the towers, they create problems for tower operators, nearby businesses, and owners of adjacent homes. To alleviate these problems, NWRC scientists are evaluating the effectiveness of suspending vulture carcasses or taxidermic effigies from towers to disperse vulture roosts at 6 sites in northern Florida. At each site, vulture numbers decreased immediately after installation of the stimulus, and roosting at the study sites completely ceased within 10 days. The effect was independent of the composition of the roost and occurred regardless of which vulture species was used as the carcass or taxidermic effigy. At one site, the roost was even substantially reduced using a commercial plastic goose decoy painted to resemble a turkey vulture. At three sites, the deterrent effect persisted up to 5 months even after the carcass or effigy was removed from the tower. Hanging a vulture carcass, taxidermic effigy, or even an artificial decoy, from a tower, creates an unfavorable roosting environment for vultures and offers a simple, effective means to manage problem roost situations.

What Attracts and Repels Vultures—Certain materials, including vinyl, plastic, and other synthetic construction and insulation products, are frequently damaged by vultures. NWRC scientists are developing a characterization of the principal chemicals (especially volatiles) contained in the damaged materials to determine whether these chemicals stimulate pecking and eating responses in birds. This will allow NWRC scientists to develop a chemical deterrent to such behavior.

Vulture Movement Patterns—NWRC scientists are also studying how vulture roost locations, foraging sites, and home ranges are influenced by key landscape features, such as livestock ranches, airports, landfills, rivers, urban centers, and State parks. Once these determinations are made, NWRC will develop usable tools and techniques that WS personnel, property owners, and resource managers can employ to manage vulture damage.

Vulture Depredation on Livestock—Because of the steady increase in reports of vulture depredation on newly born livestock, NWRC's field work has concentrated on understanding and documenting the role vultures play in livestock predation.

Groups Affected By These Problems:

- Airports
- Airlines
- Air travelers
- Homeowners
- Construction contractors
- Livestock producers
- Utility companies
- Boat owners
- Broadcast and communication tower owners and operators

Selected Publications:

- Avery, M.L., J.S. Humphrey, E.A. Tillman, K.O. Phares, and J.E. Hatcher. 2002. Dispersal of vulture roosts on communication towers. J. Raptor. Res. 36:44-49.
- Humphrey, J.S., M.L. Avery, and A.P. McGrane. 2000. Evaluating relocation as a vulture management tool in north Florida. Proceedings of 19th Vertebrate Pest Conference, March 6-9, 2000, San Diego, CA. pp. 81-83.

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